# News and Views

## Insomnia in Healthcare Workers Deteriorated During Pandemic

A study looking into the association of quality of sleep with psychological distress among healthcare workers in New York City during the coronavirus disease 2019 (COVID-19) pandemic noted that those who don't sleep well have double the odds of reporting symptoms of depression compared to their colleagues who sleep better.

The study, published in the *Journal of Affective Disorders*, noted that the healthcare workers with sleep disturbances have a 50% higher likelihood of reporting psychological distress and are 70% more likely to experience anxiety. Investigators carried out a series of surveys to evaluate the sleep habits and psychological symptoms experienced by healthcare workers during the first peak of the pandemic in New York City.

More than 70% of healthcare workers were found to have at least moderate insomnia. The number came down as COVID-19 cases declined; however, about 4 in 10 still had insomnia 10 weeks after the first survey, when the first wave was over and work schedules were back to normal… (*Source: Medscape*)

## New Zealand Plans to Ban Cigarettes for Coming Generations

New Zealand plans to ban the sale of tobacco to its future generation, in order to eventually eliminate smoking. Anyone born after 2008 will not be able to buy cigarettes or tobacco products during their lifetime, under a law which is expected to come into effect this year. The country's Minister of Health, Dr Ayesha Verall, said that they want to ensure that young people never start smoking. The country's health ministry announced a sweeping crackdown on smoking recently. The government also introduced certain tobacco controls, as a part of which, it has significantly restricted the places where cigarettes can be sold, to remove them from supermarkets and corner stores. The number of shops authorized to sell cigarettes will be brought down to less than 500 from about 8,000 at present… (*Source: BBC*)

## Children with Type 2 Diabetes should be Frequently Screened for Diabetic Retinopathy

A retrospective review published in *JAMA Ophthalmology* reveals that eye complications occurred more often and earlier with type 2 diabetes (T2D) compared to type 1 diabetes (T1D) in the young.

Medical records of persons from Olmsted County, Minnesota spanning five decades (from January 1970 to December 2019) were reviewed to examine the risk of developing diabetes-associated ocular complications; 606 patients diagnosed with T1D or T2D before 22 years of age were finally included in the analysis. The average age at the time of being diagnosed with diabetes was 12 years. The incidence of T1D was determined to be 26 per 1,00,000 children annually; for T2D, the incidence was 5 per 1,00,000 children per year. The prevalence of T2D was higher in girls versus T1D.

Diabetes-related eye complications occurred more commonly in T2D patients (26.6%) compared to T1D patients (31.2%). More than half of those (52.7%) with T2D developed retinopathy after 15 years of diagnosis versus 30.6% of those with T1D; the hazard ratio (HR) for any diabetic retinopathy (nonproliferative or greater) was 1.88 and 2.33 for proliferative diabetic retinopathy (PDR). They were also at a greater risk of developing other eye complications such as visually significant cataract (HR 2.43), diabetic macular edema (HR 1.49), or needing pars plana vitrectomy within 15 years of diagnosis (HR 4.06).

This study has shown that among the young persons diagnosed with diabetes, the risk for diabetic retinopathy within the first 15 years of disease was 88% higher in those with T2D compared to those with T1D. Hence, children with T2D need to undergo more frequent ophthalmoscopic examinations for timely detection of retinopathy and treatment to prevent or delay the risk of loss of vision.

### Reference

1. Bai P, et al. Ocular sequelae in a population-based cohort of youth diagnosed with diabetes during a 50-year period. JAMA Ophthalmol. 2021 Dec 2:e215052.

## Persistent Dyspnea in Long COVID Patients may Indicate Subclinical Cardiac Dysfunction

Patients who continue to experience breathlessness on physical activity even after 1 year of recovering from COVID-19 may have sustained some residual heart damage, suggests a new study from Belgium, presented at EuroEcho 2021, the annual echocardiography conference of the European Society of Cardiology (ESC).[1,2]

Sixty-six patients, with no past history of any cardiopulmonary disease, were selected for the study to detect any subclinical heart dysfunction in those complaining of dyspnea. Around 67% of participants were men; 23 patients (35%) had dyspnea as part of long COVID. Their average age was 50 years. These patients had been hospitalized with COVID-19 between March and April 2020 at University Hospital, Brussels. Spirometry and chest CT scan were done at 1-year post-discharge to evaluate pulmonary functions and detect any residual lung damage. Assessment of cardiac function was done by ultrasound and myocardial work, a new echocardiography-based measure of cardiac function. Global work index (GWI) and global constructive work (GCW) were used to evaluate myocardial work performance.

Results showed that compared to patients with no dyspnea, those who had persistent dyspnea at 1 year after recovery displayed diminished heart function on cardiac imaging as measured by GWI and GCW (odds ratio [OR] 0.998) after adjusting for age and gender. At 9 months, the probability of having a normal respiratory pattern also showed a reduction (OR 0.195). Almost half of the patients showed myocarditis and ischemic injury at 1 and 2 months after hospital discharge. Although more than a quarter of the participants had residual ground glass opacities at 6 months and 10% had pulmonary fibrosis at 1 year, no association was observed with dyspnea.

The findings of this study show a significant association of subclinical cardiac dysfunction incurred due to COVID-19 and persistent breathlessness during physical activity at 1 year. Such patients require long-term regular monitoring. It proposes a likely explanation of why some long COVID patients continue to experience shortness of breath even after recovering from the infection. All patients should undergo cardiac evaluation using myocardial work as a new diagnostic aid for early identification of abnormalities in heart function. Such patients require long-term regular monitoring.

### References


1. Luchian ML Persistent dyspnea 1 year after COVID-19 infection in apparently healthy subjects: a potential indicator of subclinical cardiac dysfunction. Presented at: EuroEcho 2021; December 9-11, 2021. https://www.escardio.org/The-ESC/Press-Office/Press-releases/breathlessness-in-patients-with-long-covid-may-signal-heart-problems
2. https://www.ajmc.com/view/investigators-ask-if-covid-19-infection-is-to-blame-for-cardiac-dysfunction.


## Give Two Doses of Same COVID-19 Vaccine Rather Than Mix-and-Match Approach, Says WHO Panel

An expert panel of the World Health Organization (WHO) has said that it is best to administer two doses of the same COVID-19 vaccine; however, mixing and matching seems good for countries which face supply issues.

Alejandro Cravioto, the panel's chairman, said that the best approach seems to be using the same vaccine for the two doses in the primary series. Using vaccine combinations, by mixing and matching, could be beneficial for low- and middle-income countries which are dealing with vaccine shortages amid the spread of the Omicron variant.

Cravioto stated that if countries consider a mix of vaccines, it is best to administer a second dose of a messenger RNA or vector-based vaccine if the first jab was that of an inactivated vaccine. Messenger RNA vaccines can be followed by vector-based shots... (*Source: NDTV – Bloomberg*)

## Bariatric Surgery Tied to Increased Epilepsy Risk

A new research presented at the American Epilepsy Society (AES) 2021 Annual Meeting suggests that bariatric surgery is tied to a significantly increased risk for epilepsy.

In order to assess the link, investigators identified 16,958 adult patients from linked databases at the Institute for Clinical Evaluative Sciences (ICES) who underwent bariatric surgery from July 2010 to December 2016. Data were also analyzed for 6,22,514 obese patients who had not undergone the surgery. The study participants were followed till December 31, 2019 for new-onset epilepsy. A total of 73 (0.4%) participants who underwent bariatric surgery developed epilepsy (50.1 per 1,00,000 person-years). The risk for epilepsy was significantly raised among subjects who underwent bariatric surgery compared to those who didn't (HR 1.45)... (*Source: Medscape*)

## Boosters Provide 70-75% Protection Against Mild Disease from Omicron: UK Health Agency

Citing preliminary results from a real-world study, the UK Health Security Agency said that booster COVID-19 vaccine doses provide around 70% to 75% protection against mild disease caused by the new Omicron variant.

The early data from real-world evidence indicate that although Omicron variant of the coronavirus could decrease the protection against mild disease offered

by an initial two-dose vaccination series considerably, booster doses could restore the protection to a certain extent.

In an evaluation of 581 individuals with confirmed Omicron infection, two doses of AstraZeneca and Pfizer-BioNTech COVID vaccines provided much lower levels of protection against symptomatic infection in comparison with that provided against Delta. When boosted with a dose of Pfizer vaccine, about 70% protection was noted against symptomatic infection for those who were initially administered AstraZeneca vaccine, while there was nearly 75% protection for individuals who had received the Pfizer vaccine initially… (*Source: ET Healthworld – Reuters*)

## Two Common Drugs Appear Effective Against COVID in Preliminary Testing

In early tests, two over-the-counter drugs appear to inhibit the replication of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), reports a study.

Investigators at the University of Florida found that the combination includes diphenhydramine, an antihistamine agent. When combined with lactoferrin, the compounds inhibited the virus during tests in monkey cells as well as human lung cells.

Individually, the two compounds were found to each inhibit SARS-CoV-2 virus replication by around 30%; however, on adding them together, the virus replication was diminished by 99%. The findings are published in the journal *Pathogens*. The investigators stated that further research into the effectiveness of the compounds to prevent COVID-19 infection is being done in mouse models… (*Source: The Hindu – PTI*)

## Longer Interval Between COVID-19 mRNA Vaccine Doses may Reduce Myocarditis Risk

According to a preprint research study, rates of myocarditis or pericarditis across all ages and sexes combined were found to be lower for those who had a longer interval between the two doses of an mRNA vaccine.

This was a population-based study of people in Ontario, Canada, who were administered at least one dose of a COVID-19 mRNA vaccine from December 14, 2020 through September 4, 2021. A total of 19.7 million doses of Moderna or Pfizer/BioNTech mRNA vaccines were identified to have been administered during the study period in the Ontario Ministry of Health's COVaxON database. Overall, 417 cases of myocarditis or pericarditis were reported. Of these, 297 reports met the inclusion criteria. Among all ages and sexes combined, myocarditis or pericarditis rates appeared to be higher among people who had a shorter interval between the two doses (≤30 days vs. ≥56 days). Moreover, the rates were similar for the Moderna (rate ratio [RR] 5.2) and Pfizer (RR 5.5) vaccines… (*Source: Medscape*)

## Duration of Bisphosphonate Therapy to Prevent Osteoporotic Fractures in Postmenopausal Women

The benefits of bisphosphonates in postmenopausal women with osteoporosis may become evident only after 1 year, according to a recent meta-analysis reported in *JAMA Internal Medicin*e.

The meta-analysis of 10 randomized clinical trials involved postmenopausal women with T scores ≤–2.5 or a vertebral fracture to determine the time to benefit of bisphosphonate use – alendronate, risedronate and zoledronic acid – to prevent fractures. Overall, 23,384 women, age ranging between 63 and 74 years, were included in the meta-analysis. The follow-up duration was 12 to 48 months. Pooled analysis of data revealed that taking bisphosphonate for 12.4 months would reduce the risk of 1 nonvertebral fracture per 100 postmenopausal women at an absolute risk reduction of 0.010. By 18 months, 1.5 fractures per 100 osteoporotic postmenopausal women taking bisphosphonates were prevented. Researchers also looked at specific fractures. To prevent one hip fracture in 200 postmenopausal women with osteoporosis, it would take 20.3 months of treatment with bisphosphonates at an absolute risk reduction of 0.005. On a similar note, 12.1 months of bisphosphonate therapy would be required to prevent one clinical vertebral fracture in 200 postmenopausal women with osteoporosis at an absolute risk reduction of 0.005.

Bisphosphonates are considered the first-line drugs for the treatment of osteoporosis in postmenopausal women. In this study, bisphosphonates were beneficial when used for a longer period of time. However, potential adverse effects may occur even with short-term use such as upper gastrointestinal irritation and musculoskeletal pain (which may be severe enough to necessitate discontinuation of the drug). These have to be weighed in with the benefits of long-term use. Treatment, therefore, must be individualized and based on the patient's preference.

### Reference

1. Deardorff WJ, et al. Time to benefit of bisphosphonate therapy for the prevention of fractures among postmenopausal women with osteoporosis: a meta-analysis of randomized clinical trials. JAMA Intern Med. 2021 Nov 22;e216745.

## Yoga as Adjunct Therapy in Recurrent Vasovagal Syncope

A small, open-label trial, conducted in India, suggests that addition of yoga to conventional therapy for vasovagal syncope (VVS) can decrease the symptoms and improve the patients' quality of life.

The study participants who practiced yoga had an improvement in VVS symptoms after just 6 weeks, with a reduction of 1.82 events at 1 year. Participants who practiced yoga also had significantly improved quality of life (QoL) scores by the end of the study.

Fifty-five patients were randomized to receive either a specialized yoga training program besides guideline-based therapy, or guideline-based therapy alone. At 12 months, the mean number of syncopal or presyncopal events was 0.7 ± 0.7 in the yoga group, compared with 2.52 ± 1.93 in the control group ($p < 0.05$). The reduction in events started by 6 weeks. About 43.3% patients in the intervention group and 16% patients in the control arm remained event-free at 12 months ($p = 0.02$). The findings were published online in *JACC: Clinical Electrophysiology…* (*Source: Medscape*)

## Sun Exposure Tied to Reduced Risk of Pediatric-onset MS

In a recent case-control study, sun exposure was found to be associated with a lower risk of pediatric-onset multiple sclerosis (MS).

Researchers noted that spending 30 minutes to 1-hour outdoors every day during the most recent summer was linked to a 52% lower likelihood of developing pediatric MS, when compared with spending lesser than 30 minutes outside daily (adjusted OR [aOR] 0.48). Spending time outdoors for 1 to 2 hours per day reduced the odds by 81% (aOR 0.19), reported researchers. Additionally, summer ambient ultraviolet ray dose was also found to protect against MS (aOR 0.76/kJ/$m^2$).

Investigators assessed 332 patients aged between 3 and 22 years who had MS for a median of 7.3 months. They were compared with 534 age- and sex-matched controls without MS. Questionnaires were filled by the study participants or their parents. The responses showed that 18.7% of young MS patients spent less than 30 minutes outdoors every day during the previous summer, compared with 6.2% of controls. The findings are published in the journal *Neurology…* (*Source: Medpage Today*)

## Sleep Disturbances More Intense in Older Adults with Atopic Dermatitis

According to the results of a cross-sectional study presented at the Revolutionizing Atopic Dermatitis virtual symposium, patients with atopic dermatitis (AD), aged 65 years and above, have similar disease severity as that in younger adult patients; however, the sleep disturbances in older patients are more profound, particularly difficulty staying asleep.

Researchers enrolled AD patients, 18 years of age and above, who were assessed at an academic medical center from 2014 through 2019. They noted that being 65 years of age or older was not tied to AD severity on the Eczema Area and Severity Index (EASI) (aOR, 1.47); total Scoring Atopic Dermatitis (aOR, 1.10), and itch subscore (aOR, 1.00); Investigator's Global Assessment (IGA) (aOR, 1.87); patient-reported Global Assessment of AD severity (aOR 0.80), or the patient-oriented eczema measure (aOR, 0.55). The associations were not statistically significant.

Older adult age; however, was linked to an increased number of nights with sleep disturbance from AD in the past week (aOR, 2.14; $p = 0.0142$), increased fatigue in the last 7 days (aOR, 1.81; $p = 0.0313$), difficulty sleeping in the last 7 days (aOR, 1.98; $p = 0.0118$), and trouble staying asleep in the last 7 days (aOR, 2.26; $p = 0.0030$). It was not associated with difficulty falling asleep in the last 7 days (aOR, 1.16; $p = .5996$)... (*Source: Medscape*)

## HIV Testing Declined During Pandemic, Raises Transmission Concerns

In new research presented at the United States Conference on HIV/AIDS (USCHA) 2021 Annual Meeting, investigators reported that HIV testing centers across the country witnessed a decline in testing of around 50% during the peak of the COVID-19 pandemic in 2020. This has raised concerns about a surge in transmission by people who are not aware of their HIV-positive status.

According to data from the National HIV Prevention Program Monitoring and Evaluation (NHM&E) system, the number of CDC-funded HIV tests was reported to drop by over 1 million in 2020 when COVID restrictions were in place. A total of 1,228,142 tests were conducted that year compared to 2,301,669 tests in 2019, with a decline of 46.6%. The number of people newly diagnosed with HIV, based on the tests, dropped by 29.7%, from 7,692 in 2019 to 5,409 in 2020, reported the investigators... (*Source: Medscape*)